

Application No. 10/669,345

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REMARKS

Interview Summary

The applicant thanks the Examiner for the interview conducted on May 9, 2007.

The undersigned described the primary difference between the subject process and that taught by Krish being that in the present case the anchoring adhesive is first allowed to gel or cure, and then the bonding adhesive is applied wet to bond the substrates. This allows the bonding adhesive – which is selected for its high adherence to the second material – to also adhere strongly to the first material despite inherent low-adhesion relative to the first material. On the other hand, Krish cures or dries all adhesive surfaces before adhering the composite adhesive to the second material, creating a composite adhesive “release” layer that has properties of both adhesives. The Examiner indicated that to support this argument the claims need to recite that the first adhesive is dry before the second is applied, and that the second adhesive is applied wet to both materials. The Examiner indicated that this might require a further search.

The Examiner also indicated that as written claim 11 is too broad because it does not recite a second substrate bonded to the second adhesive, and as merely a coating process does not distinguish over cited prior art such as Krish.

The Examiner indicated that ‘gelled’ is not synonymous with ‘cured’ and therefore makes claim 1 broader than the applicant is asserting. The Examiner also indicated that the references to “anchoring adhesive” and “adhesive anchors” in the main claims are not sufficient to define these elements without further definition, and indicated that she might more favourably consider these terms if they were recited as providing chemical and physical bonding sites.

The Claims Are Patentable Over Prior Art

The Examiner has maintained the rejection of pending claims 1, 5-7, 11 and 15-16 as lacking novelty in view of Krish et al. (U.S. Patent No. 6,187,432). The Examiner has also rejected pending claims 2-4 and 12-14 on the basis that it would have been obvious to a person skilled in the art due to Krish applied to claims 1 and 11 and in view of Blatchford (US Patent 6,461,467).

The Applicant respectfully submits that the claims as amended are novel and patentably distinguishable from the cited prior art. As noted previously, the claimed invention teaches a

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method of adhering a first material to a second material in which a bonding adhesive intrudes into the interstitial spaces and bonds to adhesive anchors formed by an anchoring adhesive, thereby improving adhesion of the bonding adhesive to the first and/or second materials. In the claimed invention, an anchoring adhesive selected for its ability to adhere to a material that provides a poor adhesive interface for the bonding adhesive of choice, is applied to the adhesion zone and creates a plurality of substantially isolated adhesive anchors distributed over the adhesion zone. The anchoring adhesive serves to anchor the bonding agent to the material.

By forming adhesive anchors the invention improves bonding of the first material to the second material, or in the case of a casting adhesive improves bonding of the first material to the casting adhesive, by adding physical and chemical bonding sites to the adhesion zone. This allows the adhesive of choice to be used as a bonding adhesive to bond the materials without sacrificing the quality or durability of the finished product.

As noted in the *Interview Summary*, an important difference between the subject process and that taught by Krish being that in the present case the anchoring adhesive is first allowed to gel or cure, i.e. to solidify to a point at which it forms a plurality of physical and chemical bonding sites within the adhesion zone, and then the bonding adhesive is applied before curing. This allows the bonding adhesive – which is selected for its high adherence to the second material – to also adhere strongly to the first material (because of its high adhesion to the adhesive anchors) despite inherent low-adhesion relative to the first material.

Another benefit to the use of the invention is described in the disclosure at paragraph 4: In some cases it may be desirable or essential to maintain the flexibility of the finished product where a flexible material is adhered to another material, but the most suitable adhesive is not flexible. To retain flexibility in the finished product may require the use of a flexible adhesive that does not adhere well to one or both of the substrates, which can result in products of poor quality and/or low durability. A rigid adhesive might have a higher adhesion strength, but its use would reduce or substantially eliminate the flexibility of the finished product. In a case such as this, the ability to use a strong anchoring adhesive in a pattern of *isolated adhesive anchors* permits the flexibility of the finished product to be maintained while providing the strong bond required for a quality product.

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Krish does not teach or suggest creating a plurality of substantially isolated adhesive anchors for the purpose of improving adhesion with a second (bonding) adhesive to then adhere the first and second materials together. Moreover, Krish cures or dries all adhesive surfaces before adhering the composite adhesive to the second material (see for example column 25, lines 18 to 30), creating a composite adhesive "release" layer that has properties of both adhesives.

In support of this distinction the applicant has amended the claims to recite that *the adhesive anchors are cured to a point that the adhesive anchors form a plurality of physical and chemical bonding sites within the adhesion zone*, and that the bonding adhesive is applied to the first material or to the second material or to both *before the bonding adhesive has cured*.

The applicant further traverses the Examiner's rejection of claim 11. The Examiner had indicated that as written claim 11 is too broad because it does not recite a second substrate bonded to the second adhesive, and is merely a coating process. The applicant submits that claim 11 recites the method of the invention in which the second adhesive (a casting adhesive rather than a bonding adhesive) *itself* cures to form the 'second substrate.' The applicant respectfully submits that even without reciting a second substrate, since claim 11 now recites that *the adhesive anchors are cured to a point that the adhesive anchors form a plurality of physical and chemical bonding sites within the adhesion zone*, and that the casting adhesive is applied to the first material or to the adhesive anchors *before the casting adhesive has cured*, claim 11 also patentably distinguishes over the prior art.

Claim 7 has been amended merely to correct an informality relating to antecedents.

The Applicant accordingly submits that main claims as amended are patentable over Krish. Favourable reconsideration and allowance of this application are requested.

A Request for Continued Examination is being filed concurrently with this Response.

This response is accompanied by a Petition for a two month extension of time. The Commissioner is authorized to charge any required fees, including the RCE fee set forth in 37 CFR 1.17(c), to our Deposit Account No. 500663. A signed duplicate of the Petition is enclosed if required for this purpose.

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Executed at Toronto, Ontario, Canada, on June 4, 2007.

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Petition for Extension of Time